1. What is our purpose?

Purpose: (Why are we learning this? Why does it matter?):

1a) To inquire into the following:
   - transdisciplinary theme
     How the World Works: An exploration of the physical and material world; of natural and human-made phenomenon; of the world, of science, and technology
   - central idea
     Fabrics have identifiable properties and interact with other materials.

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<th>Class/grade:</th>
<th>Kindergarten</th>
<th>Age group:</th>
<th>5-6</th>
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<td>Wildwood</td>
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<tr>
<td>Title:</td>
<td>How the World Works - Properties That Make Materials</td>
<td>Matter: Fabric</td>
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<td>Teacher(s):</td>
<td>Bafia / Stankus/Tanner</td>
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<td>Date:</td>
<td>January / February 2016</td>
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<td>Proposed duration:</td>
<td>5 weeks</td>
<td>number of hours over</td>
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1b) Summative assessment task(s):

What are the possible ways of assessing students' understanding of the central idea? What evidence, including student-initiated actions, will we look for?

Class Concept Map - pre and post with linking phrases to indicate relationships of concepts and processes

Formative/Performance Assessment Examples
Quick writes and drawings in notebooks (e.g. draw and label different fabrics) about patterns in fabrics represented by the students in the class.

Presented with the properties of fabric (scientific vocabulary), students identify these properties found in several fabric swatches

Compare and contrast different fabrics and tell/write about their purposes.

Design and conduct an experiment and report the results, e.g. how they soiled the fabric and the results of washing it.

2. What do we want to learn?

What are the key concepts (form, function, causation, change, connection, perspective, responsibility, reflection) to be emphasized within this inquiry?

Form: Students will look at what the materials are like
Function: Students will learn about the functions of different fabrics: A raincoat vs a dress.
Connection: Students will make connections to fabrics and how our use of them is weather dependent.

What lines of inquiry will define the scope of the inquiry into the central idea?

1. How are fabrics alike and different?
2. How is fabric used?
3. How is fabric made?
4. How does fabric interact with other objects/materials, such as soap and water?

What teacher questions/provocations will drive these inquiries?

Students are shown a National Geographic short video of South American indigenous people to contextualize:

- Why do we use clothing? Where does cloth come from? How is it made?
- How are fabrics alike and different?
- How is fabric used?
- How is fabric made?
- How does fabric interact with other objects/materials, such as soap and water?
3. How might we know what we have learned?

This column should be used in conjunction with “How best might we learn?”
What are the possible ways of assessing students’ prior knowledge and skills? What evidence will we look for?

Pre/Post Unit Assessment:
Interview students about what fabric is and how it’s used.

Inquiry Fair:
Students worked in stations that introduced them to different aspects of fabric and its interactions:
- Fabric Absorbency
- Tie-Dye
- Getting cloth dirty
- Washing Cloth
- Weaving

What are the possible ways of assessing student learning in the context of the lines of inquiry? What evidence will we look for?

1. Students use a Venn Diagram to show the differences and similarities between two swatches of fabric. How is fabric used?
2. Using the non-fiction set from Foss Science studies, students create a small journal answering questions like, how is fabric made, how is fabric alike and different and other questions that arise throughout our investigations of fabric.
3. Students used the Inquiry Fair activities to investigate how fabric interacts with other objects/materials, such as soap and water.
4. Students will use their observations and experience to successfully create locked over-under weavings. They will be able to describe the over-under pattern.

4. How best might we learn?

What are the learning experiences suggested by the teacher and/or students to encourage the students to engage with the inquiries and address the driving questions?

Because students need to be able to gain content knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts, students will read scientific texts.

Students will read purposefully and listen attentively to gain scientific expertise. The interdisciplinary approach to literacy is backed by extensive research establishing the need students to be proficient in reading complex informational text independently in a variety of content areas.

After a class read-aloud of the Fabric Science Story, students respond to key questions about details in the stories.

After a class read-aloud or shared reading of the Fabric Science Story, students participate in developing a class chart of types of fabric and what they are made of.

After a class read-aloud or shared reading of Harry the Dirty Dog, students make a VENN diagram to compare and contrast cleaning a dog and cleaning fabric.

After a class read-aloud or shared reading of A New Coat for Anna, students make a flowchart in their science notebook or as a class chart of the steps needed to make a coat.
Students draw and label types of fabric in their science notebooks.

Students create a class book and/or graph describing fabrics of the clothing students in the class wear.

**Visual Arts Integration**

**Week 1:** Students will use 12 x 18 Construction Paper and 2 x 12 paper strips to create Paper Weavings. Understand over-under pattern.

**Week 2:** Students will use Small Cardboard Loom with Yarn to create small tapestry Weavings reinforcing the over-under pattern.

**Week 3:** Students will look at spider webs, dream catchers and other radial designs to create paper plate Circle Weavings, continuing to explore over-under pattern.

**Week 4:** Students will use bundled drinking straws to practice over-under pattern Weaving.

**Week 5:** Students will explore Burlap to create Un-Weavings. They will discover the over-under pattern to undo the fabric.

What opportunities will occur for transdisciplinary skills development and for the development of the attributes of the learner profile?

**Thinking Skills:** students will use prior knowledge, questioning, data collection, sharing and inquiry to ask/answer about materials and fabrics.

**Application Skills:** Making use of previously acquired knowledge in practical or new ways.

**Evaluation:** Making judgments or decisions based on chosen criteria; standards and conditions.

Learner Profile: **Reflective:** Students will think about and reflect on materials/fabrics and their use for specific purposes. Students will identify and explain their weaving discoveries and processes.
5. What resources need to be gathered?
What people, places, audio-visual materials, related literature, music, art, computer software, etc, will be available?

**Primary:**
- FOSS “Fabric” materials kit
- Teacher’s manual for “Fabric”
- Fabric Unit Science Stories
- Resource Book: La Colcha de Retazos
- Resource Book: Something from Nothing

**Supplemental resources:**
- Resources Tab in Teacher Manual
- Visual Arts Materials:
  - yarn, straws, paper plates, construction paper, paper strips, prepared 3 x 3 cardboard squares
- Possible Stories: Rumplestiltskin, Charlie needs a Cloak, the Goat in the Rug, Annie and the Old One

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6. To what extent did we achieve our purpose?

Assess the outcome of the inquiry by providing evidence of students' understanding of the central idea. The reflections of all teachers involved in the planning and teaching of the inquiry should be included.

Students learned how to interlock threads to create a woven piece of fabric. This shows that students understand the nature of fabrics. Students utilize the classroom technology to dig deeper into what interests them about the subject of fabric.

From the Visual Arts: Weaving is a natural and authentic fine arts extension. I anticipate the students to be very engaged. Students were all able to create a weaving because the activity was scaffolded: from paper strips to yarns and looms.

The pacing proved to be appropriate for the FOSS kits investigations. Although some investigations took longer than expected due to students writing abilities.

Students had Science Journals made specifically for this Unit. In the journals they generated questions about the fabric and its properties. They did this individually and as a class throughout the unit.

Due to extended time on this unit, students were able to explore not just the investigations specified in the kit, but are also able to extend their fabric discussions throughout the day (art, reading, writing, science).

Students were given feedback throughout the inquiry process, making sure that it built conceptual understanding.

Next year we would have student's take it to another level by having them learn about different fabric from around the world and what purpose that specific fabric piece has. By doing this, the students are taking ownership of one type of fabric and investing time, researching where it comes from and what we use it for and then show and tell with the class.

Through-out this unit, my students learned how to take fabric apart, weave, sew fabric together, wash fabric and observe different characteristics of fabric...etc. They were fully invested in this learning experience and captured and made evident of the work in their fabric journal.

We talked about how we realized during this unit that if I let the students make more choices and give them time this gives them opportunity to apply what they know and encourages them to become independent thinkers and problem solvers for themselves.

We discussed how learning is a continuous process not only for the children, but for ourselves. We know that we need to continue to grow and develop more ideas that will enhance the student's growth and deepen their understanding of the world around them.

7. To what extent did we include the elements of the PYP?

What were the learning experiences that enabled students to:

- develop an understanding of the concepts identified in “What do we want to learn?”

The greatest level of engagement and learning we saw was during Inquiry fair. The students were able to go through the whole process of the fabric unit and were able to use their understanding of the properties/nature of fabric through tie dying, weaving, washing fabric, staining fabric...etc. They were engaged and deeply involved in the process.

- demonstrate the learning and application of particular transdisciplinary skills?

We noticed many of my students used their "Thinking" and "Application" skills during this unit. Many of them had life experiences of someone sewing or weaving, which they would apply to our lesson during the center time.

Also, the students having the experience of wearing many different types of clothing, gave them the prior knowledge to be able to identify differences in fabrics; how they look, feel, quality, and even distinguishing patterns within the fabric.

- develop particular attributes of the learner profile and/or attitudes?

In each case, explain your selection.

Profile: Reflective and creative

The student’s created a personalized fabric journal that gave them the opportunity to reflect on each inquiry and the specific purpose for that inquiry.

The students were able to create a collage of fabrics, which gave them the opportunity and hands on experience to see and feel differences in fabric and then create their own piece with it.

As we continued through the learning process, students engaged in hand on experiences that they were able to inquire about and reflect on. Each page in their journal had a specific inquiry dedicated to it. As the student's completed a task they reflected in their journal.

In Visual Arts, they were able to create 4 different types of weavings with four different types of looms.
Reflecting on the inquiry
8. What student-initiated inquiries arose from the learning?

Record a range of student-initiated inquiries and student questions and highlight any that were incorporated into the teaching and learning.

- Why is fabric different?
- Why is some fabric itchy?
- How does fabric stay together when it gets wet?
- How does fabric get its color?

At this point teachers should go back to box 2 “What do we want to learn?” and highlight the teacher questions/provocations that were most effective in driving the inquiries.

How are fabrics alike and different?
This question seemed to drive the unit in many ways. Whether we were talking about how fabric is used or where it is made. The answer always relied heavily on what type of fabric. Each piece has its own uniqueness that this reinforced to the children that fabric are alike and different in many ways.

What student-initiated actions arose from the learning?

- Students created fabric pieces for the windows of our student created Gingerbread House.
- Students began weaving patterns using construction paper.

9. Teacher notes

Reading Standards

Constant Standards RI 2, 5, and 10

Target Standards

(K.RI.1) With prompting and support, ask and answer questions about key details in a text.
(K.RI.3) With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
(K.RI.4) With prompting and support, ask and answer questions about unknown words in a text.
(K.RI.7) With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
(K.RI.9) With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Writing Standards

Constant Standards W 5, 9, and 10

Target Standards

(K.W.1) Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is . . .).

(K.W.2) Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

(K.W.3) Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

(K.W.7) Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).

(K.W.8) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.